TECHNICAL REVIEW DOCUMENT
for
MINOR MODIFICATION
of
OPERATING PERMIT 99OPLA208
issued to:

Evergreen Operating Corporation
Burro Canyon Compressor Station
Las Animas County
Source ID 0710037

February 3, 2003

PURPOSE

This document will establish the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within this Minor Modification of the Operating Permit proposed for this Site. It is designed for reference during review of the proposed modification by the EPA and during Public Comment. The conclusions made in this report are based on information used in preparing the previous Title V permit, the modification application submitted December 27, 2002, as well as information from Division files. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

The construction permit established for this plant in conjunction with the processing of this operating permit application has been reviewed in accordance with the requirements of Colorado Regulation No. 3, Part B, Construction Permits, and has been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit, and the permittee shall be allowed to operate under the permit conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

SOURCE DESCRIPTION

The source is located northwest of Trinidad, in an area of Las Animas County designated as attainment for all pollutants. There is no Federal Class I designated area within 100 kilometers of this plant. New Mexico is an affected state within 50 miles of this plant.

This source is classified as a natural gas compressor station defined under the Standard Industrial Classification code 1311. The existing Operating Permit addressed six (6) 2,961 horsepower natural gas fired internal combustion engine powered gas compressors to deliver the coal-bed methane gas into a pipeline for sales distribution. Two of these engine/compressor units are to be installed at some future date. Two glycol dehydrators are used to dry the methane gas before entry into the pipeline. Three (3) 1135 horsepower internal combustion engine powered compressors are used to boost the pipeline pressure as needed. Two (2) natural gas fired internal combustion engine driven standby emergency generators exist at the site.

One of the 2,961 horsepower internal combustion engines was destroyed in a fire. A new engine was provided to replace the destroyed engine. The new engine was installed under the temporary engine replacement Alternate Operating Scenario provisions of Section I, Condition 2 of this Operating

Permit. The new engine is a Caterpillar Model 3612SITA rated at 3300 horsepower. Evergreen had intended to use the permanent engine replacement provisions of the Alternate Operating Scenario of this Operating Permit; however, Section I, Condition 2.2.1 of this Operating Permit states "The permittee may permanently replace the existing compressor engine for the emission points specified in Table 1 with the manufacturer, model and horsepower engines listed in Table 1 without modifying this permit…" While the new replacement engine is from the same manufacturer and has the same model identification, the engine has an increased horsepower. Since the different horsepower rating does not satisfy the criteria for a permanent engine replacement under the Alternate Operating Scenario, the engine must be evaluated as a new source at the plant.

The plant is a synthetic minor source for the Prevention of Significant Deterioration (PSD) provisions of Colorado Regulation No. 3, Part B, Section IV.D.3. All of the compressor engines will be equipped with an oxidizing catalyst to limit the total plant carbon monoxide emissions to less than 250 tons per year. The following table provides the current plant-wide emissions. The Potential to Emit values are the maximum allowable emissions for the current plant. The actual emissions are those reported for Data Year 2000. Evergreen requested an increase in the permit limits to reflect the increased horsepower of the new engine. The emission increases do not exceed any of the respective significance levels, and do not change the PSD classification of the plant.

TABLE A

Potential to Emit					
			TONS PER YEAR		
Construction Permit	Equipment	Point	NOx	VOC	CO
00LA331	Cat 1135 HP	BCS1	21.9	5.5	4.6
00LA332	Cat 1135 HP	BCS2	21.9	5.5	4.6
00LA333	Cat 1135 HP	BCS3	21.9	5.5	4.6
96LA0721-2	Cat 2961 HP	CS05	26.0	20.0	14.0
98LA0524	Cat 2961 HP	CS06	26.0	20.0	14.0
03LA0054	Cat 3300 HP	CS11	28.9	22.2	15.5
98LA0567	Cat 2961 HP	CS08	26.0	20.0	14.0
98LA0568	Cat 2961 HP	CS09	26.0	20.0	14.0
98LA0569	Cat 2961 HP	CS10	26.0	20.0	14.0
		TOTALS	**224.6**	**138.7**	**99.3**
Data Year 2000 Actual Emissions					
		TOTALS	**42.8**	**8.2**	**70.8**

NEW ENGINE

The previous internal combustion engine identified as emission point CS07 was a natural gas fired Caterpillar Model G3612SITA, 4-cycle lean burn, and equipped with spark-ignition, a turbocharger, air to fuel ratio controller, and an oxidizing catalyst for carbon monoxide control. The engine was site rated at 2,961 horsepower.

The new engine is a natural gas fired Caterpillar Model G3612SITA, 4-cycle clean burn, equipped with spark-ignition, a turbocharger, air to fuel ratio controller, and an oxidizing catalyst for carbon monoxide control. The engine is site rated at 3,300 horsepower.

1. Applicable Requirements - Construction Permit 03LA0054 for emission point CS11 is being established directly in this Operating Permit as a combined construction permit/operating permit in accordance with the provisions detailed at Section I, Condition 1.3 of this Operating Permit. Condition 12 of 03LA0054 states any and all versions of Construction Permit 98LA0566 stand cancelled. Evergreen requested a small increase in the emissions of carbon monoxide, nitrogen oxides and volatile organic compounds and the annual fuel consumption limit to reflect the increased horsepower rating of the new engine.

The due date of the first semi-annual monitoring and deviation report required by this Operating Permit will be more than 180 days after the initial approval of Construction Permit 03LA0054 is issued as part of this modification of the Operating Permit and/or the equipment commenced operation. Therefore, under the provisions of Colorado Regulation No. 3, Section V.A.2, the Division is allowing the initial approval construction permit to continue in full force and effect and will consider the Responsible Official certification submitted with that report to serve as the demonstration required pursuant to Colorado Regulation No. 3, Part B, Section IV.H and no final approval construction permit will be issued. The appropriate provisions of the initial approval construction permit have been directly incorporated into this operating permit.

The short term limits will be in effect for the first twelve calendar months of operation. The short term limits are needed for compliance demonstration until twelve (12) months of operating emission records have been accumulated to evaluate compliance with the annual limit. Only the annual limits shall apply after the first twelve months of operation of the new engine.

A source compliance test must be conducted for the engine to measure the emission rate(s) for the gases listed below:

> Oxides of Nitrogen, Carbon Monoxide, Volatile Organic Compounds and Oxygen, using EPA approved methods

Prevention of Significant Deterioration (PSD) requirements shall apply to this source at any such time that this source becomes major solely by virtue of a relaxation in any permit condition. Any relaxation that increases the potential to emit above the applicable PSD threshold will require a full PSD review of the source as though construction had not yet commenced on the source. The source shall not exceed the PSD threshold until a PSD permit is granted.

2. Emission Factors - Emissions from reciprocating engines are produced during the combustion process, and are dependent upon the air to fuel ratio adjustment and specific properties of the natural gas being burned. The pollutants of concern are Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC). Small quantities of Hazardous Air Pollutants (HAPs) are also emitted when combustion is incomplete. Approval of the emission factors for this engine is necessary to the extent that accurate actual emissions are required to verify the need to submit Revised APENs to update the Division Emission Inventory. The emission factors requested by Evergreen were in terms of grams per horsepower-hour. It is Division policy to convert the horsepower-based emission factors to fuel-based emission factors for permitted engines.

A compliance test is required to demonstrate the emission controls can achieve compliance with the permitted emission limits.

3. Monitoring Plan - The source will calculate emissions based on fuel consumption and the fuel based emission factors on a monthly basis. Fuel use for these engines will be determined by allocation. Specific monitoring guidance for internal combustion engines located in attainment areas has been developed by the Division as shown on the attached grid titled, "A Compliance/Scenario Summary-Gas Fired IC Engines". The emission factors proposed are less than AP-42 for NOx and CO. Therefore, according to the monitoring grid, the source will be required to conduct the emission calculations and determine fuel use on a rolling twelve month basis. Monthly records of catalyst parameters and air to fuel ratio monitoring shall be kept. Portable monitoring shall be conducted quarterly when the engine operates more than 100 hours during the calendar quarter. The Btu content of the natural gas used shall be determined annually using appropriate ASTM or other Division approved methods. An emission compliance test is to be performed within 180 days of start-up.

4. Compliance Status - A current APEN reporting criteria pollutants and HAPs is on file with the Division. This source is currently considered to be in compliance with all applicable requirements.